

REMARKS

Claims 32, 34, 36, 38, 39, 41, 43-46, 48, 49, 51, 52, 54, 56, 58, 60 and 61 are all the claims pending in the application. By this Amendment, Applicant amends claims 34, 46, 54, and 56 for improved conformity with the US practice and to further clarify the claimed features.

I. Preliminary Matter

As a preliminary matter, Applicant thanks the Examiner for returning the initialed form PTO/SB/08 submitted with the Information Disclosure Statement filed on June 19, 2008.

II. Summary of Office Action

The Examiner objected to the specification for a minor informality and for allegedly including new matter. Claims 54, 56, 58, 60, and 61 are rejected under 35 U.S.C. § 112, second paragraph. Claims 34, 46, 54, 56, 58, 60, and 61 are rejected under 35 U.S.C. § 102 and claim 48 is rejected under 35 U.S.C. § 103(a). Claims 32, 41, and 43-45 are allowed and claims 36, 38, 39, 49, 51, and 52 contain allowable subject matter.

III. Objections to the Specification

The Examiner objected to the Abstract of Disclosure as being inadequate. The Examiner has not provided any further reasons for the objection (*see* page 2 of the Office Action). Applicant respectfully requests the Examiner to withdraw this objection to the Abstract of Disclosure in view of the self-explanatory amendment being made herein.

The Examiner further objected to the specification for allegedly introducing new matter with a Preliminary Amendment filed on December 1, 2004. Applicant respectfully requests the

Examiner to withdraw this objection to the specification at least in view of the following exemplary remarks.

Applicant respectfully notes that as shown in the Preliminary Amendment, the only change made to the first full paragraph on page 8 is: “a ~~volume percent~~~~weight percent~~age of Co;” Figs. 2 and 9 explicitly recite “VOLUME % OF Co” and as such this amendment to the first full paragraph on page 8 cannot possibly constitute new matter.

With respect to the other objected paragraphs of the specification amended in the Preliminary Amendment, Applicant respectfully notes that only conventional techniques were described. Accordingly, Applicant does not acquiesce that the objected description constitutes new matter. However, to expedite the prosecution of the above-identified application, Applicant amends the specification to exclude alleged new matter. Accordingly, Applicant respectfully requests the Examiner to withdraw this objection to the specification in view of the self-explanatory amendments to the specification being made herein.

IV. Statement of Substance of Interview

Applicant thanks the Examiner for the courteous telephonic interview on November 5, 2008. The Statement of Substance of the Interview is as follows:

During the interview, independent claims 54 and 56 were discussed in view of the 35 U.S.C. § 112 rejection. The Examiner agreed that an electrode is a structural component of the apparatus and as such indicated that this rejection will be withdrawn.

During the interview, independent claim 34 was also discussed in view of the prior art of record. The Examiner appeared to agree that claim 34 is patentable over the prior art of record and is subject to further search.

It is respectfully submitted that the instant STATEMENT OF SUBSTANCE OF INTERVIEW complies with the requirements of 37 C.F.R. §§1.2 and 1.133 and MPEP §713.04.

V. Claim Rejections under 35 U.S.C. § 112

Claims 54, 56, 58, 60, and 61 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite because they do not claim a structure of an apparatus but only include method operations (*see* page 3 of the Office Action). Applicant respectfully traverses these grounds of rejection at least in view of the following exemplary comments.

Of these rejected claims, only claims 54 and 56 are independent. These independent claims are directed to an apparatus that comprises an electrode, dielectric fluid supply unit, and a power source unit *e.g.*, Fig. 6 and page 17 of the specification describe an exemplary embodiment of an apparatus. In other words, these claims clearly recite a structure of the apparatus and not method operations. The material *e.g.*, the workpiece, is not being recited in the claims. Accordingly, Applicant respectfully requests the Examiner to withdraw these grounds of rejection of claims 54 and 56. Claims 58, 60, and 61 recite the structure of an apparatus at least by virtue of their dependency.

VI. Claim Rejections under 35 U.S.C. § 102

Claims 34, 46, 54, 56, 58, 60, and 61 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,602,561 to Moro (hereinafter “Moro”) used in lieu of WO 99/58744. Applicant respectfully traverses these grounds of rejection at least in view of the following exemplary reasons.

Independent claim 34 *inter alia* recites: “wherein the electrode is made by mixing a powder of at least one of Co, Ni, and Fe to a powder of an alloy material that has been alloyed by mixing a plurality of metal elements in a predetermined ratio.” The Examiner alleges that col. 9, line 50 to 52 of Moro discloses the above-noted unique features of claim 34 (*see* page 4 of the Office Action). Applicant respectfully disagrees.

Moro discloses WC powder and Co powder being mixed (weight ratio=8:2) with each other so as to be compression-formed, the incomplete-sintering can be realized by baking the mixture at 600 degrees for one hour. When TiC powder and TiH₂ powder are mixed (weight ratio=9:1) with each other and compression-formed, the incomplete-sintering can be realized by performing baking the mixture at 900 degrees for one hour (col. 9, lines 50 to 58).

Moro, however, only discloses mixing a WC powder with Co powder or TiC powder with TiH₂ powder at a predetermined ration. Moro does not disclose or suggest mixing Co powder with a powder of alloy material. That is, WC powder is not an alloy of metal elements. Moro only discloses a WC powder and not a powder of alloy material that has been alloyed by mixing a plurality of metal elements in a predetermined ratio. In other words, Moro does not disclose or suggest a powder alloy of metal elements.

In fact, Moro fails to disclose or even remotely suggest a powder alloy material of metal elements. Moro only discloses an alloy material with respect to forming a solid electrode component and not powder electrode component. Specifically, Moro discloses that to produce a solid electrode component, grains (blocks each having a size of tens of μm) of a hard alloy obtained by sintering is mixed with the material of the electrode in a predetermined quantity. Then, the electrode is compression-formed, and then baked to produce the incomplete-sintering

electrode. The thus-manufactured electrode is used to perform discharge machining. A powder electrode component and a solid electrode component are simultaneously discharged to the space between the poles. The powder electrode component is formed into the liquid phase due to the high temperature, and then cooled to form the hard coating. Since the temperature of the solid electrode component is not raised sufficiently, the solid characteristic is maintained. Therefore, a hard coating containing the solid component can be formed. The thus-formed hard coating has a denser tissue, free from hardness irregularities, and excellent characteristics as compared with the hard coating which is formed using an electrode made only of powder (col. 15, lines 11 to 30).

In other words, Moro clearly fails to disclose or even remotely suggest a powder of an alloy material. Moro also fails to disclose alloying an alloy material powder by mixing a plurality of metal elements in a predetermined ratio. On the contrary, Moro suggest using a solid electrode as opposed to electrode only made of powder.

For at least these exemplary reasons, Applicant respectfully submits that Moro does not and cannot anticipate the unique features of claim 34. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claim 34.

Next, independent claim 46 recites features similar to, although not necessarily coextensive with, the features argued above with respect to claim 34. Therefore, arguments presented with respect to claim 34 are respectfully submitted to apply with equal force here. For at least substantially analogous exemplary reasons, therefore, independent claim 46 is patentably distinguishable from Moro.

Independent claim 54 *inter alia* recites “an electrode of a heat-treated green compact comprising molded powders containing 40 volume % or more Co, Ni, or Fe.” Moro does not disclose or even remotely suggest an apparatus that would include an electrode as set forth in claim 54. In other words, Moro does not disclose a heat-treated green compact comprising molded powders containing 40 volume % or more Co, Ni, or Fe. For at least these exemplary reasons, claim 54 is patentably distinguishable from Moro. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claim 54.

Next, independent claim 56 *inter alia* recites “an electrode of a heat-treated green compact comprising a powder of at least one of Co, Ni, and Fe mixed with a powder of an alloy material that has been alloyed by mixing a plurality of metal elements in a predetermined ratio.” As explained above with respect to claim 34, Moro does not disclose or even remotely suggest an apparatus that would include an electrode as set forth in claim 56. In other words, Moro does not disclose a heat-treated green compact comprising a powder of at least one of Co, Ni, and Fe mixed with a powder of an alloy material that has been alloyed by mixing a plurality of metal elements in a predetermined ratio. For at least these exemplary reasons, claim 56 is patentably distinguishable from Moro. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claim 56 and its dependent claims 58, 60, and 61.

VII. Claim Rejections under 35 U.S.C. § 103(a)

Claim 48 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Moro. Applicant respectfully traverses these grounds of rejection at least in view of the following exemplary comments.

Claim 48 depends on claim 46. Applicant has already demonstrated that the Moro does not meet all the requirements of independent claim 46. Moro's disclosure would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 46. Since claim 48 depends on claim 46, it is patentable at least by virtue of its dependency.

VIII. Allowable Subject Matter

Applicant thanks the Examiner for allowing claims 32, 41, and 43-45. Applicant further thanks the Examiner for indicating that claims 36, 38, 39, 49, 51, and 52 contain allowable subject matter. Applicant respectfully holds the rewriting of claims 36, 38, 39, 49, 51, and 52 in abeyance until arguments provided above with respect to the corresponding independent claims have been reconsidered.

Applicant does not acquiesce to the Examiner's reasons for allowance.

IX. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. **If any points remain in issue, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.**

AMENDMENT UNDER 37 C.F.R. § 1.111 AND
STATEMENT OF SUBSTANCE OF INTERVIEW
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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